
अभिलेखन हेतु गाढ़ा सफेद, तैयार
मिश्रित रंग रोगन के लिए विशिष्ट

(पहला पुनरीक्षण)

Ready Mixed Paint, Thick White, for
Lettering — Specification

(First Revision)

ICS No.87.040

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FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Paints, Varnishes and Related Products Sectional Committee had been approved by the Chemical Division Council.

This standard was first published as IS 3678 E : 1966 in 1966 as an emergency standard for a material alternative to that covered by IS 167 : 1950 to meet the urgent needs of the country. It was prepared with the assistance of an *ad hoc* Consultative Group composed of representatives of Ministry of Defence; Directorate General of Supplies and Disposals; Ministry of Railways; Indian Paint Association; and other manufacturers, technologists and testing authorities under the convenership of Development Officer (Paints), Directorate General of Technical Development, New Delhi. In the formulation of this standard, due consideration had been given to meet the stringent foreign exchange position not only by replacing imported raw materials with alternative indigenous products but also by economizing the use of indigenous raw materials, such as vegetable oils, which may thus be released for export. In this standard, use of lead and zinc pigments has been eliminated.

The Technical Committee observed that because of the elimination of use of lead pigments, it is feasible to manufacture this product with very low limit of lead. The Committee, therefore, decided to prescribe maximum permissible limit of lead as 90 ppm to avoid hazardous impact of lead exposure on environment and human health. This limit has been prescribed keeping in view of the scope for exposure to children to the paint once dried. Further, majority of consumers are not aware of the consequences of lead toxicity and its long-term implications to human health. Therefore, in this revision, alongwith lead restriction, a suitable cautionary notice has been included in the marking clause. Reference has been given to various parts/sections of IS 101 for the requirements given in the standard.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

READY MIXED PAINT, THICK WHITE, FOR LETTERING — SPECIFICATION

(First Revision)

1 SCOPE

1.1 This standard prescribes the requirements and the methods of sampling and test for ready mixed paint, thick white, for lettering.

2 REFERENCES

The standards listed in Annex A contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated in Annex A.

3 TERMINOLOGY

3.1 For the purpose of this standard, the definitions given in IS 1303 shall apply.

4 REQUIREMENTS**4.1 Composition**

The material shall be manufactured with the following ingredients mixed in suitable proportions so as to satisfy the requirements of this standard.

4.1.1 Pigment

The pigment used shall consist of the following ingredients mixed in the proportions, percent by weight, specified below:

a) Titanium dioxide, <i>Min</i>	40.0
(confirming to IS 411)	
b) Argillaceous matter, <i>Max</i>	10.0
c) Whiting (confirming to IS 63), <i>Max</i>	10.0
d) Other extenders	Remainder

4.1.2 Medium

The medium shall consist of suitable bodied drying oils or oil modified alkyd or both or other synthetic resin varnish so as to satisfy the requirements of this standard. The total volatile matter content on the paint, however, shall not exceed 20 percent.

4.2 Lead Restriction

4.2.1 The material shall not contain lead or compounds of lead or mixtures of both, calculated as metallic lead more than 90 ppm, when tested for restriction from lead in accordance with IS 101 (Part 8/Sec 5).

4.3 The material shall also comply with the requirements given in Table 1.

5 PACKING AND MARKING**5.1 Packing**

The material shall be packed as agreed to between the purchaser and the supplier. The packing is subject to the provisions of the law in force in the country at that time.

5.2 Marking

5.2.1 Each container shall be marked with the following:

- a) Name of the material and indication whether undercoating or finishing;
- b) Indication of the source of manufacture;
- c) Lead content, *Max*;
- d) Volume of the material;
- e) Batch No. or Lot No. in code or otherwise;
- f) Month and year of manufacture;
- g) Type of the material; and
- h) A cautionary note as below
 - 1) Keep out of reach of children.
 - 2) Dried film of this paint may be harmful if eaten or chewed.
 - 3) This product may be harmful if swallowed or inhaled.

5.2.2 BIS Certification Marking

The container may also be marked with the Standard Mark.

5.2.2.1 The use of the Standard Mark is governed by the provisions of *Bureau of Indian Standards Act, 1986* and the Rules and Regulations made there under. The details of conditions under which the licence for the

Table 1 Requirements for Ready Mixed Paint, Thick White, for Lettering
(Clause 4.3)

Sl No.	Characteristics	Requirement	Method of Test, Ref to	
			IS 101	Annex of this Standard
(1)	(2)	(3)	(4)	(5)
i)	Drying time, h, <i>Max</i>		(Part 3/Sec 1)	—
	a) surface dry	4		
	b) hard dry	18		
	c) tack free	24		
ii)	Finish	← Smooth and semi-glossy to glossy →	(Part 3/Sec 4)	—
iii)	Consistency	Smooth and uniform, suitable for lettering	—	B
iv)	Mass, in kg/10 litres, <i>Min</i>	Within ±3 percent of the approved sample, if any	(Part 1/Sec 7)	—
v)	Colour	White, free from cream or blue hue	(Part 4/Sec 2)	—
vi)	Wet opacity ¹⁾	Between –10 percent and + 20	(Part 4/Sec 1)	—
	<i>Min</i> , m ² /10 litre	percent of the approved sample, if any		
vii)	Flash point	Not below 30°C	(Part 1/Sec 6)	—
viii)	Volatile matter content, percent by mass, <i>Max</i>	20	(Part 2/Sec 2)	—
ix)	Water content (if water is suspected to be present)	0.5	(Part 2/Sec 1)	—
ix)	Keeping properties	Not less than one year from the date of manufacturing	(Part 6/Sec 2)	—

¹⁾ Test the presence of water qualitatively by heating about 20 ml of the stirred and thoroughly mixed material in a metal dish. Presence of water, if any, is indicated by a cracking noise.

use of the Standard Mark may be granted to manufacturers or producers maybe obtained from the Bureau of Indian Standards.

5.3 Other details of packing and marking shall be in accordance with the instructions given by the purchaser.

6 SAMPLING

6.1 Representative samples of the material shall be drawn as prescribed in IS 101 (Part 1/Sec 1).

6.2 Preparation of Test Samples

6.2.1 For Drying Time

Prepare mild steel panel of sizes 150 mm × 100 mm × 1.25 mm as prescribed in 2 of IS 101 (Part 1/Sec 3). Apply the paint uniformly on each side of the panel by

brushing to give a dry film mass commensurate with the mass per 10 litre as prescribed by the supplier and compared with IS 101 (Part 3/Sec 4). Prepared test panel then subjected to the test as specified in IS 101 (Part 3/Sec 1) as soon as possible.

7 TEST METHODS

7.1 The tests shall be conducted as per the methods given in 4.1, 4.2 and col 4 and col 5 of Table 1.

7.2 Quality of Reagents

Unless specified otherwise ‘pure chemicals and distilled water (see IS 1070) shall be employed in tests.

NOTE — ‘Pure chemicals’ shall mean chemicals that do not contain impurities which affect the results of analysis.

ANNEX A

(Clause 2)

LIST OF REFERRED INDIAN STANDARDS

<i>IS No.</i>	<i>Title</i>	<i>IS No.</i>	<i>Title</i>
63 : 2006	Whiting for paint and putty (<i>third revision</i>)	Part 3	Tests on paint film formation,
101	Methods of sampling and test for paints, varnishes and related products	Sec 1 : 1986	Drying time (<i>third revision</i>)
Part 1	Test on liquid paints (general and physical),	Sec 4 : 1987	Finish (<i>third revision</i>)
Sec 1 : 1966	Sampling (<i>third revision</i>)	Part 4	Optical tests on paint films,
Sec 3 : 1986	Preparation of panels (<i>third revision</i>)	Sec 1 : 1988	Wet opacity (<i>third revision</i>)
Sec 6 : 1987	Flash point (<i>third revision</i>)	Sec 2 : 1989	Colour (<i>third revision</i>)
Sec 7 : 1987	Mass per 10 litres (<i>third revision</i>)	(Part 6/Sec 2) :	Durability tests on paint films,
Part 2	Test on liquid paints (chemical examination),	1989	Section 2 Keeping properties
Sec 1 : 1988	Water content (<i>third revision</i>)	(Part 8/Sec 5) :	Tests for pigments and other solids,
Sec 2 : 1986	Volatile matter (<i>third revision</i>)	1993	Section 5 Lead restriction test
		411 : 1991	Specification for titanium dioxide for paints (<i>third revision</i>)
		1070 : 1992	Reagent grade water (<i>third revision</i>)
		1303 : 1983	Glossary of terms relating to paints (<i>second revision</i>)

ANNEX B

[Table 1, Sl No. (iii)]

CONSISTENCY**B-1 APPARATUS****B-1.1 Palette Knife or Metal Rod****B-1.2 Panels**

B-1.2.1 Unless specified otherwise, mild steel panel of sizes 150 mm × 100 mm × 1.25 mm shall be prepared as prescribed in 2 of IS 101 (Part 1/Sec 3).

B-2 PROCEDURE

B-2.1 Insert a clean metal rod or palette knife into the original container and examine the nature of settling.

B-2.2 Observations

The material shall not cake hard inside the container and shall be in such a condition that stirring easily produces a smooth uniform paint suitable for brushing on steel panels.

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Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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